

GLUES, HIDES AND GUTS IN MARI ORGANOLOGY
DURING THE LAST DYNASTIES (1787-1762 B.C.)
AND UNDER THE REIGNS OF YASMAḤ-ADDU AND ZIMRĪ-LĪM

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Abstract

The Mari archives name about two dozen terms for musical instruments that we shall try to identify. The ICONEA conference at the Sorbonne in Paris in November 2009 shed some light on the identification of early third-millennium models. This presentation will be specifically dedicated to the textual evidence from Mari and does not claim that conclusions drawn should generally apply to the whole of the Near and Middle East nomenclature.

The identification is guided by textual identification of specific materials used in facture, such as gold, copper, bronze and silver; glues, and hides for which qualifiers indicate various means for their treatment in function of organological purpose. Some weights of metals for precise numbers of instruments indicate basic weight per item as well as the number of instruments made from one identified hide. Some have toponymic names which might elucidate their cultural origins.

INTRODUCTION

Generally, Assyriologists give precedence to philology for the identification of musical instruments. The study of materials, of their usage, and of the artisans working with them offers an alternative and highly reliable method for the understanding of instrumental facture and therefore of classification and identification. The present paper will attempt at elucidating a few terms, and attempt at confirming the meaning of a few others, (at least in the context of Mari) which had already been cautiously interpreted elsewhere.

The Mari archives have been so far the most prolific source in this respect. The texts in the present paper have mainly been extracted from *The Archives Royales de Mari*, (ARM), especially from ARM XXIII¹ and from *Vie Musicale à Mari sous les dernières Dynasties Amorrites (1787 – 1762 avant J.C. (VMM, henceforth).*²

This paper presents the textual evidence from which the study has been conducted. Texts are numbered from 1 to 58³. (Texts 1 to 11 are collations of receipts from eleven ‘*nagārum*’) Parts of the texts not related to musicology have been omitted when irrelevant. While translations are given in priority for Ancient Near and Middle Eastern musicologists, and therefore have been ‘simplified’, (without hand copies and transliteration) Assyriologists are provided with original sources, should they wish to refer to the original material.

TEXTUAL EVIDENCE: RECEIPT OF MATERIALS GIVEN TO 11 SPECIALISED NAGĀRUM-WOODWORKERS

1. Receipts from *Dīdīr*: 1/2 *šinuntum*⁴-hide for making 2 *kinnārum*-instruments.⁵ 1 *šinuntum*-hide for making 2 *kinnārum*-instruments.⁶ ½ a *šinuntum*-hide for making of 2 *kinnārum*-instruments.⁷

¹ ARM XXIII, ‘Archives Administratives de Mari. Bardet, G.; Joannès, F.; Lafont, B.; Soubeyran, D. (Publiées pour le cinquantenaire de Mari) Librairie Orientaliste Paul Guethner, Paris (1984), p.133.

² Marcotteau, M., *Vie Musicale à Mari sous les dernières Dynasties Amorrites (1787 – 1762 avant J.C.)*. (Unpublished Doctoral Thesis, Paris IV-Sorbonne, 2008).

³ Most of the texts presented in the present study amount to a consistent corpus dealing with artisans and materials. They mainly date from years ZL 1’; ZL 2’; ZL 4’; ZL 6’ and ZL 20. Most of them come from room 215.

⁴ For a discussion on the word, see Analysis, below.

Other receipts: 2 ma-na kuš-še-gin₇ šu-ti-a di-di.⁸ Receipt of *šimtum*⁹-glue to paint over giš-gigir-chariots.¹⁰ 2 ma-na še-gin₇ a-na ša-ma-at giš-gigir šu-ti-a di-di.¹¹

2. Receipt from *Ea-Mutaplī*. 1 kirrum¹² for a *tilmuttum*¹³ in alabaster.¹⁴
3. Receipts from *Habdu-Hanat*. 1 From *Mukannišum*, his servant. About the five *kinnārum*-instruments that you mentioned: out of the five *kinnārum*-instruments ordered to *Qišṭi-Nunu* and to *Habdu-Hanat*, *Habdu-Hanat* made two but *Qišṭi-Nunu* made none. I am sending you those made by *Habdu-Hanat*.¹⁵ Other orders/receipts: ½ a *šinuntum*-hide, to make a tray and a boat chair of box-wood: received by *Habdu-Hanat*.¹⁶ *Habdu-Hanat* also receives 2 minas of *šimtum*-glue (1) ma-na kuš-še-gin₇, (2) šu-ti-a ha-ab-du^dha-na-at.¹⁷ Receipt of *Habdu-Hanat* for *šimtum*-glue for work on a throne of *Dagan* in Mari. (1) 3, 1/3 ma-na še-gin₇ (2) a-na ši-pi-ir giš-gu-za (3) ša^dda-gan ša ma-ri^{ki} (4) šu-ti-a ha-ab-du^dha-na-at.¹⁸ Receipt of *Habdu-Hanat* for *šimtum*-glue to paint over(?) a chair of *ba[štum]*-wood...¹⁹ (1) 2 ma-na še-gin₇ (2) šu-ti-a ha-ab-du^dha-na-at.²⁰ Provision of thread and of *nanāpātum* (hapax) for *Habdu-Hanat*.²¹ (5) na-na-pa-tum sig ud₅ (6) 1 ma-na ṭi-wi-tum ud₅ (7) šu-ti-a ha-ab-du^dha-na-at.²² Receipt of a large log of cedar wood and of a trunk of cedar wood for the making of a throne of *Dagan* at Mari. Received by *Habdu-Hanat*.²³
4. Receipt from *Habdu-Mālik*. In instrument facture and other orders/receipts.²⁴ 1 *šinuntum*-hide received by *Habdu-Mālik* for making a table and a *paraḥšitum*²⁵-instrument.²⁶ 1 *šinuntum*-hide received by *Habdu-Mālik* for making a tray and a *paraḥšitum*-instrument.²⁷ 1 *šinūtum*-hide received by *Habdu-Mālik* for making a table and a *paraḥšitum*-instrument.²⁸ Other orders/receipts: (5) 2 ma-na kuš-še-gin₇ (6) šu-ti-a ha-ab-du-ma-lik.²⁹ Receipt of *Habdu-Mālik*

⁵ 22 iv ZL 2 (= ZL 1' / -1773) ARM XXI: 298 = VMM: 246, p. 77. For a discussion on *kinnārum*, see Analysis, below. Although it is generally accepted that the *kinnārum* was a type of lyre, it is not possible to say that it designed an instrument of this type at all times, neither is it possible to say of what type of lyre it was. Therefore, I have decided to use, in the textual evidence: 'kinnārum-instrument' for the sake of academic probity.

⁶ 22 iv ZL 2 (= ZL 1' / -1773) ARM XXI: 298; (In the first note of ARM XXI: 298.) VMM: 247, p. 77.

⁷ 22 IV ZL 20 (?). ARM XXIII: 213. Marcotteau, M., *Vie Musicale à Mari sous les dernières Dynasties Amorrites (1787-1762 B.C.) Contribution à l'Histoire de la Musique du Proche-Orient Ancien et à la Musicologie en Mésopotamie*, Tome I. (Unpublished Ph.D. Thesis. Université de la Sorbonne Paris IV, Paris, 2008), pp. 167, 404.

⁸ Archives Administratives de Mari = ARM XXIII, 186, p. 177.

⁹ For a discussion on *šimtum*, see Analysis, below.

¹⁰ 25-v- ZL 16 = ZL 4'.

¹¹ ARM XXIII, 197, p. 182. Other artisans are named here: *Rīm-Addu*, *Šarru-Adad* and *Nawar-ši-lū-mur*.

¹² For a discussion on *kirrum*, see Analysis, below.

¹³ For a discussion on *tilmuttum*, see Analysis, below.

¹⁴ ARM XXI, 250. VMM: III.3.C.2, p. 396.

¹⁵ FM IX: 11; LAPO 16: 121; ARM XIII: 20. (see note iii)

¹⁶ 22 iv ZL 2 (= ZL 1' / -1773). The transcription appears in the first note in ARM XXI: 298, (Nele Ziegler).

¹⁷ ARM XXIII, 186, p. 177.

¹⁸ ARM XXIII, 195, p. 181.

¹⁹ 18-v- ZL 16 = ZL 4'.

²⁰ ARM XXIII, 196, p. 181.

²¹ 24-vi- ZL 16 = ZL 4'.

²² ARM XXIII, 204, p. 186.

²³ ARM XXIII, 517, p. 441.

²⁴ Archives Administratives de Mari, produits: 177, pp. 172-3: Fourniture de *šimtum* à (H)abdu-Malik, artisan affecté à l'atelier *tukkum*. 26-xi- ZL 29 = ZL 1'. ½ ma-na <še>¹-gin, (2) šu-ti-ra (3) ab-du-ma-lik (4) ša tu-uk-ki-im (5) iti ki-is-ki-si-im (6) u₄ 26-kam (7) mu zi-im-ri-li-im (8) a-ah pu-ra-tim (9) uš-te-še-ru a) *Habdu-Malik*, caractérisé comme lú-nagar en XXI, 397, se retrouve dans les n° 183, 185, 193, 196 et en ARM XXI, 420. b) Sur la présence des artisans du bois dans le *tukkum*, cf. Archives Administratives de Mari, p. 146.

²⁵ For a discussion on this word, see Analysis below under *paraḥšitum*.

²⁶ 22 iv ZL 2 (= ZL 1' / -1773) ARM XXI: 298.

²⁷ 22 iv ZL 2 (= ZL 1' / -1773) ARM XXI: 298.

²⁸ 22 IV ZL 20 (?). ARM XXIII: 213.

²⁹ ARM XXIII, 186, p. 177.

for *šimtum*-glue for work on a *nubālum*-chariot.³⁰ (1) 1 ma-na 10 gin še-gi[n₇] (2) *a-na ši-pi-ir* (3) ^{gis} *nu-ba-lim* (4) *ša ha-ab-du-ma-lik* (5) *ša-ab-tu*.³¹ Receipt of *Ḥabdu-Mālik* for *šimtum*-glue for painting over a *nubālum*-chariot. (1) 2 ma-na še-gin₇ (2) *a-na ša-ma-at* ^{gis} *nu-ba-lim* (3) *šu-ti-a ha-ab-du-ma-lik*.³²

5. Receipt from *Ḥammatān*. In instrument facture and other orders. 2 *šinuntum*-hides received by *Ḥammatān* for making a *Šamaš*-throne, a tray and 'things' for musicians.³³ 2 *šinuntum*-hides received by *Ḥammatān* for making a *Šamaš*-throne, a table, a *Meluḥa*-table, and *unūtum*-'things' for the musicians. 2 *šinuntum*-hides received by *Ḥammatān* for making a chair, a table (and a number of musical instruments).³⁴ Other orders/receipts: (7) 2 ma-na kuš-še-gin₇ (8) *šu-ti-a ha-am-ma-ta-am*.³⁵ Receipt of *Ḥammatān* for *šimtum*-glue to paint over giš-gigir-chariots.³⁶ (4) 2 ma-na še-gin₇ (5) *a-na ša-ma-at* giš-gigir-há (6) *šu-ti-a* (7) *ha-ma-a-tan*.³⁷ Provision of *šimtum*-glue to *Ḥammatān*.³⁸ Provision of goat wool (sig ud₅): *nanāpātum* and *aḥrāt iddatim* (two unknown terms) to *Ḥammatān*.³⁹ (1) 4 *a-na-pa-tum* sig ud₅ (2) 4 *aḥ-ra-at i-da-tim* ud₅ (3) *šu-ti-a ha-ma-ta-an*.⁴⁰
6. Receipt from *Ḥubur-Abī*. In instrument facture, exclusively. 1 *šinuntum*-hide received by *Ḥubur-Abī* for making a *šebītum*⁴¹-instrument, a *tilmuttum*-instrument, and a *kinnārum*-instrument.⁴² 1 *šinuntum*-hide received by *Ḥubur-Abī* for making a *kinnārum*-instrument and a *tilmuttum*-instrument.⁴³ Other orders/receipts: 2 minas of *šimtum*-glue to *Ḥubur-Abī*: (3) 3 ma-na kuš-še-gin₇ (4) *šu-ti-a hu-bu-ur-a-bi*.⁴⁴ Receipt of *Ḥubur-Abī* for *šimtum*-glue to paint over *ša ḥammuhim*-chariots.⁴⁵ (8) 2 ma-na še-gin₇ (9) *a-na ša-ma-at* giš-gigir (10) *šu-ti-a hu-bu-ur-a-bi*.⁴⁶ Received 10 trunks of juniper wood *tigāru*, by *Ḥubur-Abī*.⁴⁷
7. Receipt from *Iddin-Annu*. In instrument facture? To *Iddin-Annu* from *Asqudum*. About the 20 planks that we refused to give you, the King has decided that you should have them. Send us now the *urzababītum*⁴⁸-instrument that you needed to 'inspect' as we need it.⁴⁹
8. Receipt from *Milki-Addu*. In instrument facture, exclusively. *šimtum*-glue received by *Milki Addu* for making 2 *kinnārum*-instruments.⁵⁰
9. Receipt from *Narām-Ilišu*. In instrument facture, exclusively. 1 *qa* of vegetal oil for 5 hides for *alūm*⁵¹-instruments, received (*šu-ti-a*) by *Narām-Ilišu*.⁵² (8) 1 *qa i-giš* (9) *a-na pa-ša-aš* 5 kuš *a-li-i* (10) *šu-ti-a na-ra-am-i-li-šu*.⁵³

³⁰ 4-v- ZL 16 = ZL 4'.

³¹ ARM XXIII, 194, p. 180.

³² ARM XXIII, 197, p. 182.

³³ 22 iv ZL 2 (= ZL 1' / -1773).

³⁴ 22 IV ZL 20 (?) ARM XXIII: 213. Marcetteau, M., *Vie Musicale à Mari...* p. 167.

³⁵ ARM XXIII, 186, p. 177.

³⁶ 25-v- ZL 16 = ZL 4'.

³⁷ ARM XXIII, 197, p. 182.

³⁸ 30-vii. ARM XXIII, 201, p. 184. 30-vii.

³⁹ 24-vi- ZL 16 = ZL 4'.

⁴⁰ ARM XXIII, 204, p. 185.

⁴¹ For a discussion on this word, see Analysis under *šebītum*.

⁴² 22 iv ZL 2 (= ZL 1' / -1773) ARM XXI: 298.

⁴³ 22 IV ZL 20 (?) ARM XXIII: 213. Marcetteau, M., *Vie Musicale à Mari...* p. 167, 404.

⁴⁴ ARM XXIII, 186, p. 177.

⁴⁵ 25-v- ZL 16 = ZL 4'.

⁴⁶ ARM XXIII, 197, p. 182.

⁴⁷ ARM XXIII, 519, p. 443.

⁴⁸ For a discussion on this word, see Analysis below, under *urzababītum*.

⁴⁹ ARM XXVII: 73. Marcetteau, M., *Vie Musicale à Mari...* p. 167.

⁵⁰ 14 vii ZL 3 (= ZL 2' / -1772). ARM XXIII: 180. Marcetteau, M., *Vie Musicale à Mari...* p. 167, 404, 410.

⁵¹ For a discussion on this word, see Analysis below, under *alūm*.

⁵² 25 v ZL 5 (= ZL 4' / -1770).

⁵³ ARM XXIII, 482, p. 424; ARM XXIII: 482; Marcetteau, M., *Vie Musicale à Mari...* p. 167, 288.

10. Receipt from *Qišti-Annu*. In instrument facture, exclusively. About the *paraḥšitum-Ninigizibara*⁵⁴-instrument, *Qišti-Annu* has not worked on it yet, I have not succeeded [. . .] My Lord should send *Qišti-Annu* strict orders.⁵⁵
11. Receipt from *Qišti-Nunu*. In instrument facture, exclusively. From *Mukannišum*, your servant: About the five *kinnārum*-instruments that you ordered to *Qišti-Nunu* and to *Habdu-Hanat*, *Habdu-Hanat* made two but *Qišti-Nunu* made none. I am sending you those made by *Habdu-Hanat*.⁵⁶ Other orders/receipts. Receipt of *Qišti-Nunu* for *šimtum*-glue.⁵⁷ (1) 2 ma-na kuš-še-gin₇ (2) šu-ti-a *qī-iš-ti-^dnu-nu*.⁵⁸ Receipt of *Qišti-Nunu* for *šimtum*-glue.⁵⁹ (8) ½ ma-na kuš-še-gin₇ (9) šu-ti-a *qī-iš-ti-^dn[u-n]u*.⁶⁰ Receipt of *Qišti-Nunu* for *šimtum*-glue.⁶¹ (1) 1/3 mi-na 5 gin še-gin₇ (2) šu-ti-a (3) *qī-iš-ti-^dnu-nu* (4) iti *a-bi-[im]* (5) u₄ 18-[kam] (6) mu zi-im-ri-[li-im] (7) giš-gu-za gal (8) *a-na ^dutu ú-še-lu-ú*.⁶² Provision of goat wool (síg ud₅): *nanāpātum* and *aḥrāt iddatim* to *Hammatān*.⁶³ (1) 4 *na-na-pa-tum* síg ud₅ (2) 4 *aḥ-ra-at i-da-tim* ud₅ (3) šu-ti-a *ha-ma-ta-an* (4) *ú qī-iš-ti-^dnu-nu*.⁶⁴ Provision of a *šinūnūtum*-hide⁶⁵ and of 3 minas of tallow for doing work on a *nubālum*-chariot.⁶⁶ (1) 1 *ši-nu-un-tum* (2) 3 ma-na í-udu (3) *a-na ši-pi-ir* (4) *giš nu-ba-lim* (5) šu-ti-a (6) *qī-iš-ti-^dnu-¹nu*.⁶⁷

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12. List of nineteen female musicians of various origins: 1) *Lā'iyā*, *paraḥšitum*-instrument player; 2) *Inumana*, *paraḥšitum*-instrument player; *Annu-tappī*, *paraḥšitum*-instrument player; 4) *Ṭāba*, *kinnārum*-instrument player; *Mālika*, *kinnārum*-instrument player; 18) *Tadara*, *paraḥšitum*-instrument player; 20) *Baduma*, *paraḥšitum*-instrument player at the house of *Eštar-Bišra*; *Akatum paraḥšitum*-instrument player; 24) *Ea-sīmti*, *paraḥšitum*-instrument player.⁶⁸
13. From *Rišīya*, your servant. It is to be feared that there are no *alum* instruments and that the beats of the *balaggum*⁶⁹-instruments are not played for *Terqa*! Will my Lord manage without help from someone, for the *urubātum*-ritual, and will abundance be assured? I will do all that my Lord asks! Would my Lord answer quickly to my tablet so that the music school does not stay without work.⁷⁰
14. From *Rišīya* and *Ilšu-ibbišu*, your servants. There are no more *pitnum*⁷¹. We must have some brought to us.⁷²
15. From *Rišīya*, your servant. May *Anum*, *Enlil*, the king of the gods, the gods and goddesses, all of them, give you life! *Mari* is well! Please, have someone bringing me *pitnum*, as many as possible. The *mummum*-music school must not stay without work.⁷³

⁵⁴ For an organological discussion on *Ninigizibara*. See Marcetteau, M., *VMM*, Vol. I, III.2.A.2, p. 312-3.

⁵⁵ *FM IX*: 44; Marcetteau, M., *Vie Musicale à Mari*... p. 167.

⁵⁶ *FM IX*: 11; *LAPO* 16: 121; *ARM XIII*: 20. (see endnote iii).

⁵⁷ 26-iii- ZL 20.

⁵⁸ *ARM XXIII*, 187, p. 178.

⁵⁹ 15-iv- ZL 20.

⁶⁰ *ARM XXIII*, 191, p. 179.

⁶¹ 18-iv- ZL 16 = ZL 4'.

⁶² *ARM XXIII*, 193, p. 180.

⁶³ 24-vi- ZL 16 = ZL 4'.

⁶⁴ *ARM XXIII*, 204, p. 185.

⁶⁵ The *šinūnūtum* is usually the sparrow but it is also a fish with determinatives mušen and ku₆. *ARM XXIII* p.140, fn. 17.

⁶⁶ 8-i- ZL 29 = ZL 1'.

⁶⁷ *ARM XXIII*, 212, p.189.

⁶⁸ ? iii ZL 7 (=ZL 6' / -1768). *Florilegium Marianum (FM)* IV: 42; *VMM*: 43, p. 69.

⁶⁹ For a discussion on this word, see Analysis, below, under *balaggum*.

⁷⁰ *FM IX*: 20; *VMM*: 69, pp. 45-6; *VMM*: 69, p.70.

⁷¹ For a discussion on this word, see Analysis, below, under *pitnum*.

⁷² *FM IX*: 21; *VMM*: 70, p. 46.

⁷³ *FM IX*: 23; *VMM*: 72, p. 46; *VMM*: 72, p. 46.

16. To *Yasmah-Addu* : From *Ibbi-Ilabrat*, your servant and your friend. You write often to me about *Ea-napšeram*. The matter about which you write is with obstinacy and this is improper. Although your father never had a *urumšum*⁷⁴-player, you would have two of them?⁷⁵
17. From *Ibbi-Ilabrat*, your servant. If the masonry-worker that my Lord has promised is sent to me, I will give *pitnum* every month as a gift.⁷⁶
18. From *Ilšu-ibbīšui*, your servant. May my Lord send strict orders regarding the *enūtum* and the *siddum* at *Ušur-awāssu*. Regarding the *pitnum*, I have none.⁷⁷
19. From *Ilšu-ibbīšu*, your servant. My Lord has given me the following orders: 'Go to *Mari*! Put all your energy in the teaching of music and of the *siddum*.'⁷⁸ At present I have gone to *Mari*. I have spoken to *Šamaš-magir* regarding the work of the *siddum*. 'That *siddum* are given to me so that I can really start work before my Lord arrives.'⁷⁹
20. From *Ilšu-ibbīšu*, your servant. There are no *pitnum* left for me. The *pitnum* that my Lord delivered for me were hardly enough. There are fifteen women belonging to the *šitrum* who live in the palace. Thirteen of them must be freed. I have asked my Lord and I want that the instruments are given back to me.⁸⁰
21. From *Ilšu-ibbīšu*, your servant. Regarding the *enūtum* about which my Lord gave me an order. The *enūtum* make up a group of ten. These *enūtum*⁸¹ are for the audition of my Lord. What news about the *urzababītum*⁸²-instrument called 'My-sun-is *Yasmah-Addu*?' Also, regarding the reed-instruments. None were given to me. Following my Lord's orders, the reed-instruments have been inlaid.⁸³
22. From your servant *Ilī-rabi*. I have just had *Yaqqim-Addu* deliver to my Lord's some *marḥušum*-wood for the façade of a *šalammalgūm*⁸⁴ and a *dilarum*-chair...⁸⁵

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23. From *Warad-ilišu*, your servant. ... If this is not possible, I have seen in *Išar-Lim*'s home a *wartum*-installation which is as strong as an '*ergastulum*'. Have them living there! The teachers are close by; my *šebitum* are close by also and are at their disposal.⁸⁶
24. From *Warad-ilišu*, your servant. ... Many female musicians have learnt how to play the *šēbītum*. Among them are three young *aštalūm*-musicians. However, my Lord has promised to give them to *Ḥašor*.⁸⁷
25. From *Warad-ilišu*, your servant. Regarding the gold-*enūtum*⁸⁸ about which my Lord gave me instructions, I have received the gold and just gave the *enūtum* to the goldsmith for it to be

⁷⁴ For a discussion on this word, see Analysis, below, under *murumšum*.

⁷⁵ FM IX : 33 ; *Littératures anciennes du Proche-Orient* = LAPO 16 : 10 ; ARM V : 76 ; VMM : 77, p. 48.

⁷⁶ FM IX : 37 ; VMM : 81, p. 48.

⁷⁷ FM IX : 48 ; VMM : 83, p. 49.

⁷⁸ For a discussion on this word, see Analysis, below, under *siddum*.

⁷⁹ FM IX : 49 ; VMM : 84, p. 49.

⁸⁰ FM IX : 50 ; VMM : 85, p. 49.

⁸¹ For a discussion on this word, see Analysis, below, under *enūtum*.

⁸² For a discussion on this word, see Analysis, below, under *urzababītum*.

⁸³ FM IX : 53 ; VMM : 88, p. 50.

⁸⁴ For a discussion on this word, see Analysis below, under *šalammalgūm*.

⁸⁵ LAPO 16 : 6 ; FM I, pp. 53-55 ; VMM : 99, p. 52.

⁸⁶ FM IX : 38 ; VMM : 109, p. 54.

⁸⁷ FM IX : 41 ; VMM : 112, p. 55.

⁸⁸ For a discussion on this word, see Analysis, below, under *enūtum*.

inlaid. Also, compared to the *lē'um*⁸⁹, already some time ago my Lord had asked me the following question: 'which is the best *lē'um*: the one made of ebony or the one made from *elammakkum*-wood?' And I have answered: 'It is the *lē'um* made from *elammakkum*-wood which is better than the one made from ebony. Now, my Lord must tell me if it will be the ebony *lē'um* or the *elammakkum*-wood *lē'um* that will be inlaid.'⁹⁰

26. From *Warad-ilišu*, your servant. Regarding the *enūtum* about which my Lord enquired, I have assembled them. I have started work on the *inum*-instrument that I made for my Lord. I will give it its curve(?) in the *mmmum*-music school. About the *paraḥšitum* *Ninigizibara*, *Qišti-Annu* did not take it.⁹¹
27. From *Mukannišum*, your servant. About the five *kinnārum*-instruments which were ordered from *Qišti-Nunu* and *Habdu-Ḥanat*, only the latter has made two of them. I am sending to my Lord the two made by *Qišti-Nunu*.⁹²
28. To *Šibtu* : From his Lord. I am on the road to Mari. Come to greet me at *Saggarātum*. Bring with you the seven-women-*šitrum*, the female musician *Aḫātum*, who lives at your home, and the golden *enūtum*.⁹³
29. To *Mukannišum* : My Lord, have all the new bows that you have with you wrapped in red leather and also the *še20-pi-tam*-instrument[=*šebitum* ?].⁹⁴
30. From your servant *Ušur-awassu* [...] Regarding the forty minas of bronze that you sent me for the *alūm*-instrument, it weighs only fifty minas. Regarding the bull hides, we have not enough. I beg you to send me four hides of large bulls.⁹⁵
31. From *Asqudum*, your servant. I will take the *alūm*-instrument and the *kubbusum* and will have them brought and I will have the children transported on the chariots. In three days' time I will reach *Imar*, so he is there four days before the sacrifice of the donkey.⁹⁶
32. From *Asqudum*, your servant. About the transport of the *alūm*-instrument, *Ḥammu-Šamar*, my travelling companion said that we must get it to *Tuttul*. I have brought it to Aleppo. During the journey the cold affected me and the men on the barges. We could not draw the barges any longer. I gave up. I left the provisions in the barges. I only took five days of provisions and went up river. And you said that eight men would be enough. They lifted it but could not carry it. Twelve men lifted it but could not carry it. Sixteen men were needed. I said to *Ḥammu-Šamar* that the men were not happy. Free them from the *alūm*-instrument now. Without considering this matter he said: 'Have the *alūm*-instrument brought now to *Imar*.' I looked everywhere but I have not found men in *Tuttul*. It is therefore with my own men that I will carry the *alūm*-instrument to Aleppo and I will keep with me the thirty *behrum*-soldiers who went along with me. May my Lord be informed of it.⁹⁷
33. From *Asqudum*, your servant. My whole caravan is safe, but the *alūm*-instrument has worn out my men. According to what my Lord said, eight men would be enough but it took thirty men and it worn them out.⁹⁸

⁸⁹ For a discussion on this word, see Analysis, below, under *lē'um*.

⁹⁰ *FM IX* : 43; *VMM*: 114, p. 55.

⁹¹ *FM IX* : 44; *VMM*: 115, p. 55.

⁹² *FM IX*: 11; *LAPO* 16: 121; *ARM XIII*: 20; *VMM* 117, p. 56.

⁹³ *FM IX*: 12; *LAPO* 18: 1160; *MARI* 3, p. 136; *ARM X*: 137; *VMM*: 121, p. 56.

⁹⁴ *LAPO* 17: 667; *ARM XVIII*: 9; *VMM*: 125, p. 57.

⁹⁵ *ARMT XXVI*: 286; *VMM*: 131, p. 58.

⁹⁶ *ARMT XXVI*: 17; *VMM*: 132, p. 58.

⁹⁷ *ARMT XXVI*: 18; *VMM*: 133, p. 58.

⁹⁸ *ARMT XXVI*: 20; *VMM*: 134, p. 59.

34. To *Zimrī-Līm* from *Hāya-Sūmū*. He is mastering the ⁹⁹*gīš'le'um*-instrument and a *pitnum*-instrument must be given to him. At present, I have ordered that you receive half a mina.⁹⁹
35. From *Ilušu-našir*, your servant. Regarding *Iddin-Sin's* daughter, the musician, about whom you wrote to me. There are no available *paraḥšitum*-instruments. I have had a new *paraḥšitum*-instrument made and I have strung it.¹⁰⁰
36. From *Akiya*, your servant. I have spoken to my Lord about the *inum*-instrument of the *Sammētar* estate. I beg of my Lord to take a decision regarding these *inum*¹⁰¹-instruments.¹⁰²

NON DATABLE EPISTOLARY

37. May my Lord send me the reward for these female musicians, for the *paraḥšitum*-player and for the *tigitallum*¹⁰³-instrument player.¹⁰⁴
38. Who is he who receives from my Lord's hand an *algasurum*¹⁰⁵-instrument and a *sammūm*¹⁰⁶-instrument, but they are not good enough for a musician.¹⁰⁷

DOCUMENT FROM THE REIGN OF YAŠMAḪ-ADDU.

39. 5 *biltum* of bronze: weight of two moulds for an *alūm*.¹⁰⁸
40. Two receipts of copper for a *lilissum*¹⁰⁹-instrument and for the bedroom door.¹¹⁰

DOCUMENT OF THE REIGN OF ZIMRĪ-LĪM.

41. Two hides of *šinuntum* received by *Hammatān* for work on a throne of *Šamaš*, one tray [...] and 'things' for the musicians; one hide of *šinuntum* received by *Habdu-Malik* to make a table and a *paraḥšitum*; one hide received by *Hubur-Abī* to make a *šebitum*, a *tilmuttum*, and a *paraḥšitum*; half a hide of *šinuntum* received by *Dīdī* to make two *kinnārum*.¹¹¹
42. One hide of *šinuntum* received by *Habdu-Malik* to make a tray and a *paraḥšitum*; one hide of *šinuntum* received by *Hubur-Abī* to make one *šebitum*, one *tilmuttum* and one *kinnārum*; one hide of *šinuntum* received by *Dīdī* to make two *kinnārum*.¹¹²
43. Two hides for the *balaggum* which will be delivered for the *takpirtum*-purification ceremony of the king.¹¹³
44. Provision of alum for the treatment of *alūm* hides to *Puzur-Akka*.¹¹⁴

⁹⁹ ARM XXVIII: 86; *VMM*: 148, p. 61.

¹⁰⁰ ARM XXVII: 7; *VMM*: 150, p. 61.

¹⁰¹ For a discussion on this word, see Analysis, below, under *inum*.

¹⁰² *FM* IX: 66; *VMM*: 163, p. 63.

¹⁰³ For a discussion on this word, see Analysis, below, under *tigitallum*.

¹⁰⁴ *FM* IX, p. 50 et note 198; *Mélange Hirsch, WZKM* 86, pp. 483-484; *VMM* 187, p. 69.

¹⁰⁵ For a discussion on this word, see Analysis below, under *algasurum*.

¹⁰⁶ For a discussion on this word, see Analysis, below, under *sammūm*.

¹⁰⁷ *FM* IX: 62; *VMM* 193, p. 70.

¹⁰⁸ 6 iv, *Haya-Malik* eponymic year. *ARMT* XXI: 258; *VII* 210, p. 73.

¹⁰⁹ For a discussion on this word, see Analysis, below, under *lilissum*.

¹¹⁰ 8 iv, vii or viii? *Nimer-Sin* eponymic year (-1778/1777). *ARM* XXIV/1: 105; *FM* V, p. 126, n. 409; *VMM* 224, p. 74.

¹¹¹ 22 iv ZL 2 (= ZL 1' / -1773); *ARM* XXI: 298; *VMM*: 246, p. 77.

¹¹² 22 iv ZL 2 (= ZL 1' / -1773); See first note in *ARM* XXI: 298; *VMM*: 247, p. 77.

¹¹³ 28 xi ZL 2 (= ZL 1' / -1773) *ARM* XVIII: 65; *VMM*: 252, p. 78.

¹¹⁴ 20 xii ZL 29 (= ZL 1' / -1773) *ARMT* XXIII: 136; *VMM*: 254, p. 78.

- 45.1 and 2/3 minas of bronze for making 120 rivets to stretch the hides of two *alūm*-instruments. 17 and 1/3 minas for 173 'stars' of 10 *šiqlum* each and 165 'stars' of 5 *šiqlum* each, of the two *alūm*-instruments, which was brought by *Terqa* for facture; two *alūm*-instruments.¹¹⁵
- 46.Receipt of *Milki-Addu* for *šimtum*-glue for work on two *kinnārum*-instruments.¹¹⁶
- 47.One *qa* of oil to treat five hides of *alūm*, received by *Narām-Ilišu*.¹¹⁷
- 48.Provision of nine hides of *šinuntum* to ten artisans of which five and a half hides for the facture of musical instruments. Two hides for *Ḥammatān* for making a chair, a table and some musical instruments (of unknown type). One hide of *šinuntum* to *Ḥabdu-Malik* for making a table and a *paraḥšitum*. One hide of *šinuntum* to *Hubur-Abī* for the facture of a *kinnārum*-instrument and a *timultum*-instrument. Half a hide of *šinuntum* to *Dīdī* for the facture of two *kinnārum*-instruments.¹¹⁸
- 49.One ^{gis}*lē'um*-instrument, one *urzababītum*-instrument, one *algasurrum*-instrument, one *sammūm*-instrument and one *kinnārum*-instrument which are all gold plated.¹¹⁹

UNDATABLE DOCUMENTS

- 50.One mina of silver, according to the weight of one mina at the court of *asīm-Sūmū*, having been unused, the weight having been placed on the scales to build a *kirrum* for a *sammūm*-instrument, the silver will now be used to make two heads of goats. Received by *Išḫi-Mamma*.¹²⁰

RITUAL TEXTS FROM MARI

- 51.Protocol for the ritual of *Eštar*. ...One of the lamentation priests, standing up, will start singing the *eršemma*-lamentation to the accompaniment of a *ḥalḥallatum*.¹²¹-instrument.
- 52.Protocol for the *Eštar* of *Irradan* ritual. ...The high priest prepares the feast for the goddess. He greets the king with *Ningizipara*, standing facing the goddess, to the sound of the *lilissum*-instrument.¹²²
- 53.Inventory of musical instruments mentioning Five *paraḥsitum*-instruments; two *murumšum*-instruments; ^{gis}*lē'um*-instruments and *sammūm*-instruments.¹²³
- 54.I have sent you three tablets about the leather-worker who makes the *alūm*-instruments...¹²⁴
- 55.This text mentions a musician specialised in *pitnum*-instruments.¹²⁵
- 56.This text mentions a musician specialised in *pitnum*-instruments.¹²⁶
- 57.Request for bull hides for an *alūm*-instrument.¹²⁷

¹¹⁵ Undated but estimated ZL 1' / -1773) FM III: 7; ARM XXII: 204+; VMM: 255, p.78.

¹¹⁶ 14 vii ZL 3 (=ZL 2' / -1772); ARM XXIII: 180; VMM: 257, p. 78.

¹¹⁷ 25 v ZL 5 (= ZL 4' / -1770); ARM XXIII: 482; VMM 274, p. 80.

¹¹⁸ 22 iv ZL 20 (?); ARM IX: 213; VMM: 328, p. 85.

¹¹⁹ ARM XXV: 547 (new collation by Jean-Marie Durand) + FM IX, p.72. VMM: 358, p.88.

¹²⁰ ARM XXV: 768; NABU 1989/30. VMM: 359, p. 89.

¹²¹ For a discussion on this word, see Analysis, below, under *ḥalḥallatum*. Amorite period. FM IX: § 1.3.1; FM III: 2; VMM: 371, pp. 90-1.

¹²² FM III: 3. Col. I; Amorite period; VMM: 372, p. 91.

¹²³ M.5489, in MARI 2, p. 212. VMM: 381, p. 95.

¹²⁴ A.4340+, in FM IX, p. 75, note 256. VMM: 419, p. 98.

¹²⁵ T. 193, in FM IX, p. 76, note 266; VMM: 420, p. 98.

¹²⁶ M.9892, in FM IX, p. 76, note 266; VMM 421, p. 98.

¹²⁷ A.471, in FM IX, p.74, note 255; VMM: 437, p. 100.

58. Inscription on iconographic medium: To *Eštar*-king, ruler of the heaven and earth, who favourably answers prayers, who walks on his right, *Šamši-Addu*, powerful king, king of Akkad, who captures his enemies, has given a bronze *lilissu* the sound of which matching his heroism.¹²⁸

ANALYSIS AND DISCUSSION OF THE SELECTED TERMINOLOGY IN ALPHABETICAL ORDER

algasurru. Two occurrences of the instrument appear in our selected texts. In the *CAD*, the *algasurrû* is a plectrum or a drumstick. *giš.sur_x*(BALAGxÜZ).gal = *a-lu-û*, *giš.al.gar.sur.ra* = *ŠU-[u]*, *giš.sur_x* = *ŠU-u*¹²⁹. Outside Mari, the *algasurrû* is attested only in Sumerian texts¹³⁰. At Mari, the *algasurru* appears in text 38 with a *sammûm*-instrument and in text 49: one *algasurru*-instrument along with a *lê'um* a *urzababîtu*, a *sammûm* and a *kinnârum*, which might be all string instruments. In this text, they are gold plated. This is not helpful as gold is certainly not a material which leads to any possible identification other than cost. If the *algasurru* was 'covered', 'decorated with gold, it would have been a very special instrument. That it would have been a drumstick or a plectrum at some point is possible, in or outside Mari. However, it is most likely that at Mari, and for a certain period around 1700 B.C., the *algasurru* would have been a string instrument. Marcetteau mentions the playing of the *algasurru* along with the *harhar*,¹³¹ outside Mari, with the *šebîtu/sabitum* and the *miritum*, all instruments having a pleasant sound.¹³² Shehata offers an alternative interpretation for the *algasurru* as a friction drum. Since the iconography has not revealed, positively, any instrument of this type, the hypothesis is conjectural.¹³³ Therefore, it is possible to assume that at Mari, under the last dynasties, the *algasurru* was a string instrument. But that it was a harp, a lyre or a lute, and what type for each might it have been, is impossible to say. Generally, the philology *giš.sur_x*(BALAGxÜZ).gal = *a-lu-û*, *giš.al.gar.sur.ra* would suggest a more complex organological structure which I would associate with an instrument that is altogether string, percussion and idiophone very similar to the 'bolon' of Guinea Conakry with which it is almost homophonic. However, the iconography at Mari has not revealed such a hybrid type the only occurrences of which being during the fourth millennium in Elam and Sumer. Krispijn writes the following: 'instrument placed down with a plectrum'. There are two regional types¹³⁴ including an Elamite type of *algarsur*. An *algarsurrû*¹³⁵ is equated with *šulpu ša balağ* (!?) 'stick of the musical instrument' = plectrum (?) and *surgallu* with *šulpu* 'stick'. Veldhuis¹³⁶ considers the *giš.al.gar.sur₉* to be a drumstick. For his reasons for considering the *algarsur* to be a stringed musical instrument see Krispijn, *algar*.¹³⁷

alûm. The *CAD* says that the *alû* was a wooden drum, (on the basis of the determinative *giš*) in Standard and Neo-Babylonian and that it was a Sumerian loan word written *GIŠ.Á.LÁ*. The *alûm* is well recognized as the large vertical instrument. Our texts mention the equivalent of 150 kilogrammes of bronze for the *alûm*. The casting of 150 kilogrammes of bronze in one

¹²⁸ *Mari* 3, p. 44; lines 1-3 and 10-11 have been mentioned in *Syria* No 20 (1939), p. 98; *VMM*: 377, p. 94.

¹²⁹ *Hh*. VII B 67ff.

¹³⁰ *OECT* 1 pl.2 ii 28; *TCL* 16 pl. 140:72; *TCL* 16 pl. 127; *OECT* 1 pl. 45 iv 20.

¹³¹ *harharu*. A chain, in Standard and Neo-Babylonian. [mu-ur] [IAR] = [ha]r-*ha*-rum A V/2:254. *Aššutama alpu har-r[u] ...*. Chains are used as idiophones. In the Arabo-Persian Gulf, fishermen dance with chains or ropes tied around their ankles and waist and on these chains, or ropes, a quantity of shells hang rattling against each other during their gesticulations. These idiophones are called 'helehel' (my approximate transliteration), an onomatopoeia which I would have preferred to associate with *halhallatu* (see *CAD*) rather than with *harharu*.

¹³² Marcetteau, M., *VMM*, p. 396.

¹³³ Shehata, D., 'Some observations on the *algasur*' in *Orient - archäologie*, No 20, Rahden, (Liedorf 2006), pp.367-78.

¹³⁴ *Hh* VII B 60-61.

¹³⁵ *Hg* B II 165.

¹³⁶ 'The *sur*-priest, the instrument *giš.al.gar.sur₉*, and the Forms and Uses of a Rare Sign', *Afo* 44-45 (1997-1998), pp. 119-128)

¹³⁷ Krispijn, T., 'Musical Ensembles in Ancient Mesopotamia' *ICONEA* 2008, Richard Dumbrell and Irving Finkel, Eds. (London 2010), pp. 125-50; Shehata, D. N. ('Some Observations on the *algar*sur', in Gatsov, I. - Schwarzberg (ed.), *Aegean - Marmara - Black Sea: the Present State of Research on the Early Neolithic* (Langenweissbach 2006), pp. 367-378).

operation is unattested at that period and appears as impossible as this quantity of metal would imply a very large crucible, too large for that period. Thus this quantity of metal can only suggest that if such an amount was needed, then the casting would have been of parts that would be later assembled when the metal was cold. An acceptable quantity of cast bronze at a time would be of 1 to 2 kilogrammes. Therefore, the bronze infrastructure of the *alūm* would be of about 15 to 12 separate pieces. Additionally, there were 120 rivets of bronze amounting to 1.5 kilogrammes. There were also 3 kilogrammes for the 173 'stars' of the *alūm*. Thus each rivet would weigh about 12.5 grams and each 'star' about 17.3 grams. Now, the 'stars' might be the name for special part which held the various pieces of the infrastructure together. The rivets would stretch the hides on the frame. It is not unrealistic to have a bronze frame made of separate pieces secured together by some kind of metal rods, the 'stars'. It is said that at least 5 hides were needed for one *alūm*. It is possible that these hides were placed in layers and then stretched over the metal frame by means of metal rivets. The sound produced from such a frame drum would be extraordinary and similar to the Japanese giant taiko drums. Thirty men were needed to lift and transport the *alūm*. At the beginning, 16 men were present to carry the *alūm* from Mari to Aleppo but they were exhausted. Assuming that the *alūm* weighed 150 kilogrammes, if there were 30 men, they would each have lifted 500 grammes, which is very light. Things do not add up. The only proposition is that the *alūm* was not only the drum itself but that it also involved a construction for its transport, display and playing. The drum would have been placed on a heavy stage of wood, a type of platform which contributed to the amplification of its sound, a form a large soundboard, and in this case a general weight of 1000, to 1500 kilos would not be unreasonable thus each of the 30 men would have had to lift a weight varying from 33 to 50 kilogrammes which are much more realistic figures. In order to accommodate 30 men around it, the platform would have measured about 5 metres long by 2 metres wide, a reasonable size.

balaggu. The instrument appears in our texts 13 and 43 and a duplicate of the latter. In 13, the *alūm* and *balaggu* are 'devoted' to the building of the *Dagan* temple at *Terqa* and other occurrences are for the purification ritual of *Zimri Līm*. Thus we may assume that in this context the instrument was strongly linked to cultic matters. From the onset of the first millennium, the word *balaggu* is used to define hymns, lamentations and funerary music. At Mari, there was a specific *balaggu* catalogue. Krispijn¹³⁸ writes that the pictogram for *balaḡ* developed from a bow-shaped chordophone from the Uruk period, around 3200 B.C. and became an angular-shaped harp at Fara around 2600 B.C. Composites of *balaḡ* in the early lexical lists of professions are: *gala.balaḡ* 'leader of the *balaḡ*-players'; *balaḡ.did*; NAR.BALAḡ. Later *balaḡ* might have been developed into a term for a musical instrument in general. *ḡišbalaḡ* occurs in Ur III administrative texts from Ur, Isin and elsewhere. For *balaḡ* = *kinnārum* 'Syrian lyre'¹³⁹ *palaggu* forms a trio with *alū* and *timbūtu*.¹⁴⁰ *balaḡdid* /*dubdu*, (*ḡiš/kuš*)BALAḡ. DĪ (A) = *dubdu* (?) = *timbūtu* (B); BALAḡ.di.da (C); BALAḡ.BALAḡ.di = *dúb.dúb.di* (D) 'sounding *balaḡ*'(?) also 'harp player, singer of *balaḡ*-songs'. For the pronunciation of BALAḡ.DĪ as *dubdu(b)*.¹⁴¹ It is equated with *utmenakkum* <*u+temen+ak'plank/bridge of the (foundation) peg(s)', which could point to the side of a harp with tuning pegs.¹⁴² The word is explained as *kišallu* 'ankle bone'.¹⁴³ The sign BALAḡ and cognates have the readings *balaḡ*, *dúb* and *tak*. *dubdub(di)* (D) is a reduplicated, onomatopoeic (?) form like *ḡalḡallatu*, *lilis* and *zamzam*. *timbūtu* or *timbuttu* forms a trio with *alū* and *palaggu*.¹⁴⁴ For *balaḡ dilmun*, *balaḡ.dilmun* = *talmuttu* (?) 'balaḡ of Dilmun'. Dilmun is the region from the island Failaka as far as Bahrain (including the opposite coast). There is a¹⁴⁵ *talmuttu*- 'instrument of Dilmun', occurring in Old-

¹³⁸ Krispijn, T., ICONEA 2008, op. cit. p. 144.

¹³⁹ VE 572.3

¹⁴⁰ Krispijn, T., ICONEA 2008, op. cit. p. 144; Šurpu III 90 (Table 3.2 10).

¹⁴¹ see Krispijn, 'Beitrage', p. 23 note 40.

¹⁴² In Can. Hh VIIIB.

¹⁴³ Hg B II 161.

¹⁴⁴ Šurpu III 90.

¹⁴⁵ In MB Hh 4266-4267.

Babylonian at Mari as well,¹⁴⁶ but there it is not understood as 'Dilmunite'). It is used for a type of lute. There is a balaḡ mari, balaḡ.ma.rí = *miritum*, 'balaḡ of Mari'. The 'harp of Mari' is the precursor of the *miritum*. For burbalaḡ, búr.balaḡ, búr.balaḡ is a special type of balaḡ or 'balaḡ-player moving (his fingers ?) quickly'.¹⁴⁷

enūtum. See *siddum*, below. There is a *unūtu* (*enūtu*, *anūtu*) meaning equipment, gear, tools, also utensils, furnishings, vessels, belongings. See *CAD*, *unūtu* 2b.¹⁴⁸

halḫalatum. The *CAD* describes the instrument as a kind of drum from Old Babylonian onward. Krispijn has a ḫarḫar, written ^(giš) ḫar. ḫar, meaning 'rings, links of a chain'. ḫarmušen(na) 'ring of a bird' instead of ḫarḫar is attested,¹⁴⁹ though translated with *ḫarḫu/arrum*. Part of is this instrument is ḡešpu₂.har.mušen¹⁵⁰ 'circular handle of the *ḫarḫaru*' = *mušelū* 'part to lift the instrument' (see note 132).

inu. The *inu* is well recognised as a string instrument in Standard Babylonian: giš.gù.dé, giš.SAR, giš.ù.lú.DU, giš.du₈.du, giš.šu.galam.ma, giš.sa. šú, giš.úr, giš.u₅, giš.i.nu, giš.dù.a, giš.dim, giš.bal, giš.á.gá, giš. tún, giš.sikil, giš.gal, giš. šu.gal = *i-[nu]*, giš.gal.30.àm = MIN *rab-ba-a-ti*, giš.gù.dé.ša.Ux(GIŠGAL). ša₄ = MIN *mal-ḫa-a-ti*, giš.gù.dé.ša.Ux.ša₄.gú.gar.ra = MIN MIN *rab-ba-a-ti* ḫḫ. VIIB 117f.: giš.gal.30.àm = *i-n[u rab-ba-a-ti]* [...], giš.gù.dé.ša.Ux.ša₄ = MIN [*mal-ḫa-a-ti*] = [...], giš.gù.dé. ša.Ux. ša₄.gú.gar.ra = MIN [MIN *rab-ba-ti*] = [...] Hg. BII 172ff.; mu.gù.dé = giš.gù.dé = *i-nu*;¹⁵¹ GIŠ^{gi-ēš.gu-da} GÜ.DÉ = *i-nu*.¹⁵² [*pi*]-*it-nu*, [*ta-p*]-*a-lu*, [*x-x*]-*x-lu*, [*i*]-*nu* (Sumerian column broken)¹⁵³ giš.gù.dé tag.tag.[ga.zu] : I (text *gan*)-*nu lap-tu-ka* when you pluck the *inu*;¹⁵⁴ giš.bal ki. Šár.ra mu (variation *mi*). ni.in.gar: *i-na-an adi [šā]ri iškum* (obscure)¹⁵⁵. *Sudduru quqqānē qutrinni niknakkī* GIŠ *i-ni sammē* the regular offerings, the incense for the censers, the *inu*-instruments (and) the *sammū*-instruments are set out.¹⁵⁶ For Sumerian references, see Falkenstein,¹⁵⁷ and Landsberger.¹⁵⁸

kinnārum. The word *kinnāru* is well attested at Mari and Ras Shamra. That it might have been a lyre at certain periods is generally accepted. However, this does not constitute evidence that it had been a lyre at all periods in the Ancient Near and Middle East.¹⁵⁹ The evidence from Mari in relation

¹⁴⁶ *CAD* T, p. 414.

¹⁴⁷ Cf. nundum.nundum.búr.ke₄ = *šaptān muššabrātum* 'twittering lips' CT 17, 32 19-20; nundum.búr.re.balaḡ.ḡá = *nasāsum* 'to wail' Kagal D sect. 9 7 (PSD B, 195-196).

¹⁴⁸ *ARMT* 23 104:7.

¹⁴⁹ MB Hh 4254.

¹⁵⁰ MB Hh 4255.

¹⁵¹ Emesal Voc. II 152.

¹⁵² Erimhuš III 93.

¹⁵³ Antagal D 178ff.

¹⁵⁴ *OECT* 6 pl. 16 K.3228 r. 4f.

¹⁵⁵ *Lugale* VIII 23.

¹⁵⁶ Craig *ARBT* 1 30:28.

¹⁵⁷ *MSL* 4 p. 21 n. to line 152.

¹⁵⁸ *ZA* 42 155 n. 2.

¹⁵⁹ See Bottéro, *ARMT XIII* p. 162; Nougayrol, *Ugaritica V*, p. 59. Mitchell attests of the *kinnāru* iconography in the following: Third millennium Sumer (*UE*, II, pp. 249-258; *NB*, figs. 366, 372; A. Parrot, *Tello*, pl. XX.a, pp. 174-176 = *MAO*, no. 26, pl. 6.b) and later (*NB*, fig. 376), and in different forms in the Assyrian monuments (*NI*, pl. CXIX; *SA*, pls. 20 (= *ANEP*, no. 202), 25, 42; *NB*, fig. 391; see also the works of W. Stauder, n. 14); also in Asia Minor in the second millennium (H. Frankfort, *Cylinder Seals* (1939), fig. 81, p. 250, n.2; H. Goldman, *Excavations at Gözlü Kule, Tarsus*, II (1956), pls. 394.35; 400.35; cf. an unpublished cylinder seal from Mardin in the British Museum, B.M. 134306), in Cyprus (E. Gjerstad, *The Swedish Cyprus Expedition*, I (1934), pl. 76.67, p. 474) and at Megiddo on an ivory (G. Loud, *The Megiddo Ivories* (1939), pl. 4.2 = *MAO*, no. 61, thirteenth century, with nine strings) and on a Philistine pot (G. Loud, *Megiddo*, II (1948), pl. 76.1, same date, four strings). Examples also occur from the tenth to the seventh century in Cilicia (H. Goldman, *Excavations at Gözlü Kule, Tarsus*, III (1963), pls. 162.10; 165.10, pp. 351, 357, and see E. Porada in S. S. Weinberg (ed.), *The Aegean and the Near East*, (1956), pp. 185-211), Cyprus (*ICC*, no. 2166; *MAO*, no. 81), and the Neo-Hittite carvings (A. Moortgat, *Tell Halaf*, III, *Die Bildwerke* (1955), pls. 100, 101 = *MAO*, no. 70; *ASD*, III, pl. LXII; *AK*, pls. XI.55, XV.74). The Aegean, Crete and mainland Greece have produced second millennium examples (H. R. Hall, *Aegean Archaeology*, (1915), pl. XXVIII = R. W. Hutchinson, *Prehistoric Crete*, (1962), pl. 20; H. L. Lorimer, *Homer and the Monuments*, (1950), p. 456) and then there

to hides used in their facture would suggest that there were two sizes of the instrument. One would have been twice the size of the other as in one instance half a hide is needed for making two of them and in other instance it is a full hide that is needed for two of them. If it were a cow hide that was used, then half a hide being about 10 square feet, 5 square feet would have been needed for the small model which seems quite a large amount. With the larger model, if 10 square feet of hide were needed, this would have been for a monumental type. If it were sheep hide that was used, then we would have altogether more reasonable proportions: 2 square feet for the smaller and 4 for the larger. Yet, we cannot say if the hide covered both sides of the sound-box. If it did cover both sides, then a cow hide would have been needed. For a study of the *kinnārum* at Mari, see *VMM*.¹⁶⁰ There is a *zannaru*, written ^(gis)za.na.ru = *zannaru*, *tindū*, *kinnaru*. It is a loanword from Hattic **zinar*. In the Middle-Babylonian version it is beside *zannaru* translated with *tindū* ‘?’¹⁶¹, *kinnaru* ‘Syrian lyre’. It is associated with *ḡišdim.nun* = *tindū* ‘magnificent pole’¹⁶² and *sur₉.ra* ‘plectrum’.¹⁶³

kirrum. The word appears in three occurrences in the Mari texts in relation to facture. 1) ... 1 *kirru* of *Maḥaši* made of alabaster....¹⁶⁴ 2) 1 *kirrum* of Tilmun made of alabaster: *Ea-mutaḫlī*.¹⁶⁵ 3) 1 mina of silver... to make a *kirrum* for a *sammūm*....¹⁶⁶ This *kirrum* only appears on exotic instruments as is confirmed by their names. There is evidence of ornamentation on late fourth, early third millennia lyres from Ur, usually in the shape of a horned bovid/ovid.¹⁶⁷ Alabaster is not a material that is typically associated with musical instruments for two principal reasons the first being that it is not a good sound transmitter and that secondly it is heavy and is therefore difficult to associate with any instrument, unless the *kirrum* was a lithophone and that a *kirrum* was one of a set of such, but the hypothesis is most unlikely in the light that another *kirrum* is made of silver. It is not possible, therefore to make any further hypothesis other than the *kirrum* was part of the *tilmuttum*.

lē’um. The instrument would have been made of wood, principally. Ebony and *elammakum*-wood are mentioned along with it. See *VMM*.¹⁶⁸

lillissum. The instrument is well documented from a Seleucid tablet from Uruk¹⁶⁹ which has a sketch of the instrument along with a cow to be sacrificed and its hide used for the covering of the drum

are various forms from the ninth to sixth centuries, mainly on painted pots (*DAB*, pl. 36.1, pp. 77-78, pl. 43.2, pp. 86-87); B. V. Head, *A Guide to the Principal Coins of the Greeks*, (1959), pl. II, no. I.A.35, p. 35 (Calymna); H. Payne, *Necrocorinthia*, fig. 44A, p. 119; pl. 34.3; *HGB*, pp. 55-56, 300-301, 406-407; M. Wegner, *Das Musikleben den Griechen*, (1949), pl. 1.a, b, p. 29; *MAO*, no. 82; *AOTB*, II2, no. 554, pl. CCXXI, pp. 159-160; H. Lorimer, *Homer and the Monuments*, p. 456. Another instrument which appears once on an eighth-century Nimrud ivory (*NI*, pl. XVI-XVII) is a rectangle with strings of equal length stretched across its shorter dimension. This is sometimes identified as a ‘psaltery’ (*NI*, p. 191). *The Musical Instruments in Nebuchadnezzar’s Orchestra* T. C. Mitchell and R. Joyce, in D. J. Wiseman, ed., *Notes on Some Problems in the Book of Daniel*. London: The Tyndale Press, 1965, pp. 19-27. However, this is not a lyre but a chalcophone. I have mentioned this on countless instances at the BM but no notice has been taken to correct this error which is therefore perpetrated over and over in many publications such as research theses. See also Franklin, J., *The Global Economy of Music in the Ancient Near East*, in J. Westenholz (ed.), *The Sounds of Music: Instruments from the Ancient World*, (Jerusalem, Keter Press).

¹⁶⁰ Marcotteau, M., *VMM*, Vol. I, III.1.C., pp. 298-301.

¹⁶¹ also *Diri* III 45.

¹⁶² Hh B 86a // Hg B II 170.

¹⁶³ Hg B II 166.

¹⁶⁴ *ARM* XXXV: 200; *MARI* 6, p. 130; *VMM*: 251, p. 77. In Vol. I of *VMM*, III.3.C.2, p. 397, Marcotteau writes that the material of which the *kirrum* is made is not known. However, in her annexe, *VMM*: 251, p. 77, she mentions that the *kirru* of *maḥaši* was made in alabaster.

¹⁶⁵ *ARMT* XXI: 250; *VMM*: 364, p. 89.

¹⁶⁶ *ARM* xxv: 768; *NABU* 1989/30; *VMM*: 359, p. 89.

¹⁶⁷ Dumbrill, R., *The Archaeomusicology of the Ancient Near East*, Pl. 10, p. 235; Pl. 11, p. 236; Pls. 15, 16, p. 243; Pls. 18, 19, 20, p. 244; Pl. 21, 22, 23, p. 245; Pls. 24, 25, p. 246; Pl. 26, p. 247; Pls. 31, 32, p. 250; Pls. 33, 34, 35, p. 251; Pl. 36, p. 242; See also Schauensee, Maude de, *Two Lyres from Ur*, (Philadelphia 2002), Pl. 5, p. 16; Pl. 7b, p. 23; Pl. 8, p. 24; Pls. 9, 10, p. 25; Pl. 17, p. 36, Fig. 6, p. 37; Pl. 18a, p. 39; Pl. 23a, p. 48; Pl. 23b, p. 49.

¹⁶⁸ Marcotteau, M., *VMM*, Vol. I, III.2.A.4, pp. 315-6.

¹⁶⁹ AO.6479.

in a very precise ritual which is known as the 'rituel du *kalû*'. The *kalû* is a lamentation-priest and is known from Old Akkadian and Old Babylonian instances. It is a Sumerian Loan word which is written syllabically and as GALA (UŠ.KU)¹⁷⁰

littum. Ziegler¹⁷¹ proposes that it was the bovid's head that ornated the front of bovine lyres.¹⁷²

mirutum/marutum. Krispijn writes that the instrument came from Mari. It is associated with ^{giš}gu 'the wooden neck', possibly referring to the 'neck' of the instrument.¹⁷³ ^{giš}marutum occurs in Ur III-Early OB administrative texts from Isin. The furniture term ^{giš}za.mi.ri.tum 'side (in the shape of) the mirutum' occurs in texts from Ur, Umma, Puziri-Dagan and Nippur-Esagdana. The CAD has the *mirutu* as a musical instrument at Ur III, and in Old-Babylonian instances. ^{giš}ma.ri = [mi-ri-tum];¹⁷⁴ ^{giš}sa.bi-tum, ^{giš}mi.ri-tum, ^{giš}ur.za.ba.bi-tum.¹⁷⁵ There is an al.gar mi-ri.tum;¹⁷⁶ ^{giš}mi.ri.tum;¹⁷⁷ *mi-ri-it an-nu tim a-li-li*.¹⁷⁸

murumšum. Players of these instruments would have been rare.¹⁷⁹ We are told that the instrument was made from rare woods, gold plated, and that it required half a *mina* of copper, or of lead (copper seems more plausible), possibly alabaster? And perhaps some *šammu*-stones.¹⁸⁰

nagārum. There is no evidence of artisans specialised in musical instrument facture in the Ancient Near and Middle-East, at any period B.C. At Mari, the epistolary documentation reveals that this craft was practiced by woodworkers known as (lú-nagar = *nagārum*)¹⁸¹. They were not segregated from general woodworkers since the activities of both were known under the same denomination. The profession of *nagārum* included the handling of materials and substances other than wood such as metals, hides and leathers¹⁸², guts and sinew; strings and ropes made from various origins, vegetal and animal, and other substances such as tallow, oil, glues, waxes and varnishes. There are recurring names of artisans in the Mari onomastics to whom instrument facture was entrusted. Prosopography has showed that some nineteen names are more frequently mentioned than others. As said above, these *nagārū* were not making musical instruments, exclusively, as seen from the epistolary. Other names of woodworkers appear too in relation to the making of items others than musical. Thus it is possible that some of these artisans were instrument-makers, primarily, who might have complemented their income (or used their skills for other tasks when no instruments were ordered) with cabinet-making, rather than had been wood-workers, essentially, to whom instrument facture was occasionally requested. Out of nineteen names, eleven are linked in ways which need to be appreciated in their own contexts, to instrument facture. It would not be unreasonable to assume that the following men, up to now, were the first instrument makers ever known in antiquity: *Dīdī*; *Ea-Mutaplī*; *Ḫabdu-Ḫanat*; *Ḫabdu-Mālik*; *Ḫammatān*; *Ḫubur-Abī*; *Iddin-Annu*; *Milki-Addu*; *Narām-Ilišu*; *Qišṭi-Annu*;

¹⁷⁰ CAD, under *kalû*. Drower, E. S., and Buckley, J. J., *The Mandaean of Iraq and Iran: Their Cults, Customs, Magic Legends*, (Oxford 1937), p. 143; Thureau-Dangin, F., *Rituel accadien*, (*Rituel du Kalû, du temple d'Anu à Uruk et fêtes du nouvel an à Babylone*), (Paris 1921); *VMM*, Vol. I, III.1.A, p. 278-281.

¹⁷¹ Ziegler, N., *FM IX*: 52, note at line 6; see *VMM*, Vol. I, III.2.A.III, pp. 314-5.

¹⁷² CAD under *littu* A.

¹⁷³ Can. Hh VII B 78.

¹⁷⁴ Hh. VII B 77.

¹⁷⁵ *MSL* 6 157:220 f. (Forerunner to Hh).

¹⁷⁶ *SAKI* 130 x 11 (Gudea Cyl. B).

¹⁷⁷ Among seven other instruments. Castellino, Two *Šulgi* Hymns 46 *Šulgi* B 165, Enki's Journey to Nippur (Eridu Hymn) 63; Kilmer, *PAPS* 115-147.

¹⁷⁸ Obscure, but possibly to be taken as this word, cf. line 36 cited *alāla* usage a. *RA* 45 182:44 (OB lit.).

¹⁷⁹ *FM IX*, p. 73.

¹⁸⁰ *FM IX*: 33, note at line 8.

¹⁸¹ *ARM XXIII*, p. 133.

¹⁸² Al-Jadir, W., 'Le travail du cuir', *Sumer* 27. Pp. 193-201; Sigrist, M., Le travail des cuirs et peaux à Umma sous la dynastie d'Ur III, *Journal of Cuneiform Studies*, Vol. 33, No. 3/4 (Jul. - Oct., 1981), pp. 141-190. Published by: The American Schools of Oriental Research. Stable URL: <http://www.jstor.org/stable/1359899>; Thureau-Dangin, F., 'l'Alun et la noix de galle' *Notes Assyriologiques*, XXIX, pp. 26-31.

Qišti-Nunu. To resume the information in texts 1 to 11, we have: Text 1, *Dīdī* received: 1 *šinuntum*-hide to make 2 *kinnārum*-instruments; 1 *šinuntum*-hide to make 2 *kinnārum*-instruments; 2 minas of glue and juniper wood; *šimtum*-glue to paint over a chariot; logs of juniper wood. In text 2, *Ea-Mutaplī* received: Accessory to instrument facture. 1 *kirrum* for the *Tilmun* in alabaster.¹⁸³ In text 3, *Ḥabdu-Ḥanat* made 2 *kinnārum*-instruments and received: ½ *šinuntum*-hide to make a tray and a chair; 2 minas of *šimtum*-glue for a throne of *Dagan*; More *šimtum*-glue for a chair; thread and *nanāpātum*; cedar log a cedar trunk to make a throne of *Dagan*. In text 4, *Ḥabdu-Mālik* received: 1 *šinuntum*-hide for a table and a *paraḥšitum*-instrument; 1 *šinuntum*-hide for a table and a *paraḥšitum*-instrument; 2 minas of *šimtum*-glue; *šimtum*-glue for making a *nabūlum*-chariot; *šimtum*-glue for painting a *nabūlum*-chariot. In text 5, *Ḥammātān* received 2 *šinuntum*-hides for a throne of *Šamaš*, a tray and 'things' for musicians; 2 *šinuntum*-hides for a throne of *Šamaš*, a *Meluḥḥa*-table and 'things' for musicians; 2 *šinuntum*-hides for a chair, a table and a certain number of unknown musical instruments; 2 minas of *šimtum*-glue; 2 minas of *šimtum*-glue to paint giš gigir-chariots; More *šimtum*-glue; Goat wool, *nanāpātum* and *aḥrāt iddatin*. In text 6, *Ḥubur-Abī* received 1 *šinuntum*-hide for making a *šebitum*-instrument, a *timultum*-instrument and a *kinnārum*-instrument; 1 *šinuntum*-hide for a *kinnārum*-instrument and a *timultum*-instrument; 2 minas of *šimtum*-glue; 2 minas of *šimtum*-glue for painting a *ša ḥammuḥim*-chariot; trunks of juniper wood. In text 7, *Iddin-Annu* Inspected(?) a *urزابitum*-instrument. In text 8, *Milki-Addu* received *šimtum*-glue for making 2 *kinnārum*-instruments; 1 *šinuntum*-hide for a box wood chair and a *baštum*-wood for a throne. In text 9, *Narām-Ilišu* received *qa* of vegetal oil for *alum*-hides. In text 10, *Qišti-Annu* is late delivering a *paraḥšitum*-*Ninigizibara*-instrument. In text 11, *Qišti-Nunu* did not deliver the *kinnārum*-instruments requested. He received 2 minas of *šimtum*-glue; 1/2 mina of *šimtum*-glue; 1/3 mina of *šimtum*-glue; Goat wool, *nanāpātum* and *iddatum*; minas of tallow for a *nabūlum*-chariot.

paraḥšitum. Krispijn has *paraḥšitum* as an instrument from *Far(a)ḥšum/Fars'*. It occurs in texts from Mari and Middle Babylonian Lexical texts from Emar. This instrument is well attested at Mari and may indicate that it came from Marḥuṣ, that is Luristan, modern day Iran. Marḥuṣ has forms with initial 'p' and can therefore the instrument can be read as *paraḥšitum*, i.e. coming from *Parḥuṣ* = Fars.¹⁸⁴ The instrument is made of wood and requires half a *šinuntum*-hide and is mentioned along with the *kinnārum*, the *šebitum* and the *tilmutum*, and is very likely to be a string instrument.¹⁸⁵

pitnum. Guts would have been used intensively. However, it is attested that strings made from them had to be ordered from elsewhere and were apparently not made at Mari. '...regarding what my Lord has written: we have no more *pitnum* – send some more' '...beside, bring me as many *pitnum* as you can, the mum-mum school of music cannot stay without work...' '...if the builder that you have promised to give me, as a gift, I would give to you a gift of *pinum* every month...' '...with regard the *pitnum*, please order some...' '...I have no more *pitnum*. The *pitnum* that you sent me are not enough'. It is quite easy to manufacture strings from guts of various mass. The twisting of more lengths of guts together would have allowed for consistent mass since variations of the anatomy of the gut from similar animals would have been minimal. Myriam Marcetteau and myself have experimented with guts and even without any specific treatment given to them, they offer great reliability and longevity. I still have 25 years old left-overs which are still as good as they were when I made them. The meaning of the word *pitnum* seems to have changed. During the *Yasmah-Addu* period it is equated to gut strings. This is clear from the quantity that was requested which possibly could not have meant that they were *pitnum*-instruments, but makes sense with *pitnum*-strings. Also, they did not have any *pitnum* left, implying that in some way they were worn out or simply broke. This would not be suitable of an instrument which could have been mended rather than replaced. Another text is even clearer

¹⁸³ *ARM* XXI, 250; *VMM*: Vol. I, III.3.C.2., p. 396.

¹⁸⁴ *ARM* XXI: 15, note pp. 21-3.

¹⁸⁵ *VMM*, Vol. I, III.2.A.1, pp. 311-13.

when 'as many *pitnum* as possible should be sent'. Surely it could not have been musical instruments that were needed. There is another conclusive statement: 'If you do this for me, I will send you many *pitnum* every month'. One can send strings every month, but there would be a limit as to how many new instruments would be sent. Then at the time of *Zimri-Lim*, things change and we have: 'give him one *le'um* and one *pitnum*. Surely a gift of one string would be mean, but if by now both *gis le'um* and *pitnum* are instruments, the request becomes logical. Also we have 'a musician specialist of the *pitnum*'. Obviously no musician would be an expert in 'strings' but surely could be an expert in a 'specific instrument'. It is not known if the word *pitnum* was still in usage to mean strings in Mari During and after the reign of *Zimri-Lim*.

rīmu. concerning the ox-hides, we have collected them but they will not be sufficient:¹⁸⁶ *aššum KUŠ ri-mi KUŠ.HI.A ša annikām ibaššū nuštātīma ul ik[aššadu]*

sinuntum. We have ^{kuš}*sinūntim* that we also find in partial duplicates¹⁸⁷ and in a letter¹⁸⁸. Jean-Marie Durand¹⁸⁹ proposes that the *šinūntum* might be fish-hide.¹⁹⁰ However, the hypothesis in relation to the size of the items which would have to be made from them, excludes, especially at Mari, that it could have been fish-hide. The usable surface of a fallow deer is about 6 square feet, which is about 0.55 square meters and that, roughly, these are the surfaces for sheep, goat, and pig. An average cow has about 15 to 18 square feet. It is highly probable that *šinuntum*-hides would have been cow-hides since only these would have been appropriate for making tray and tables with sufficient rigidity to hold objects and also appropriate soundboards for musical instruments. Essentially, there are two type of leather: raw hide and tanned leather. Raw hide may be treated with alum (*gabū*). From the *šinuntum*-hides provided to these artisans we have the following information: In text 1 half a *šinuntum*-hide is needed for making two *kinnārum*-instruments; in the same text one full hide is needed to make two *kinnārum*-instruments, and again in the same text half of a *šinuntum*-hide is needed for making two *kinnārum*-instruments. Therefore, these instruments must have had different sizes, and according to the hides required, some would have been twice the size of others. However, it can also be speculated that these instruments were not either half size, or double size. They might have been sizes 'in between' which are impossible to evaluate. In text 4, a full *šinuntum*-hide is needed to make a table and a *paraḥšitum*-instrument and the same hide is needed for a tray and a *paraḥšitum*-instrument. Therefore, we cannot make any estimation as we do not know either the size of a table or of a tray. In text 6, half a hide is needed for making a tray and a chair. Therefore, a *paraḥšitum*-instrument requires three quarters of a *šinuntum*-hide for its construction; a *kinnārum*-instrument requires half a *šinuntum*-hide; a *šebitum*-instrument requires one quarter of a *šinuntum*-hide and a *tilmuttum*-instrument requires a quarter of a *šinuntum*-hide. However, other parameters need to be included in these equations. What are these instruments? If it is highly probable that the *kinnārum* was the lyre as we think it is today, examples of which are still used in Africa, principally, and more specifically in Ethiopia with the 'krar-type'. But which type of lyre would it have been, and might the term not have been a generic one for lyre-types. Surely, these instruments would have had toponymic, totemistic or animistic names. Were they zoomorphic, symmetric, asymmetric, frontal, lateral, and so forth, is impossible to say without accurate lexical definitions and descriptions which lack from the textual evidence. It is highly probable that the *šinuntum*-hide would have been more a type of hide defined by its treatment rather than it was the animal used that defined the term. This can be assumed from our texts which say what was the hide for. Half a hide was needed for two *kinnārum*-lyres on one occasion and in another one while hide is needed for making also two of these instruments. Thus the tanner providing the *nagāru* with *šinuntum* would give the appropriate surface of

¹⁸⁶ ARMT 26 286:12'.

¹⁸⁷ ARM XXI, 298, as well as in *AAM*, produits..., 212, in ARMT XXII, 181 and 324, iii: 19.

¹⁸⁸ ARM X, 28, *Archives Administratives de Mari*, Produits..., p.140.

¹⁸⁹ ARMT XXI, p. 370.

¹⁹⁰ The *šinūntum* is usually as stated in *AAM*, produits, p. 140, note 17, a sparrow, a bird but also a fish with determinatives *mušen* and *ku₆*.

leather for the instrument because he knew for what instrument it was needed: One hide is needed to make two *kinnāru*-lyres and half a hide to make two of these instruments. Now, there is often delivery of *šimtum*-glue along with *šinuntum*-hides. This is very important for organology as *šinuntum*-hides could not have been tanned, (*i.e.* made souple by the addition of oils, waxes, etc.) for the reason that oily hides cannot be glued as the fat they contain prevents bonding. Thus *šinuntum*-soundboards are glued onto the sound-box, while tanned, that is oily hides, must be attached to instruments by means of nails, or ropes, or whatever method, to the exclusion of gluing. These nails are mentioned along with the descriptions of the *alum*. It is therefore possible to advance that string instruments were fitted with *šinuntum*-soundboards, generally, and that drums would have had oily hides, possibly the *rīmu*.

šimtum. As defined under 'Produit pour le travail du bois, du cuir, et du tissu',¹⁹¹ *šimtum* is a term which is more generally associated with wood-workers. Outside Mari, it is written as *še-gín* and *še-gin*. At Mari, there is a constant usage of *še-GIM*, *še-gin*₇. The ideogram is most frequently used. However, *ši-im-tum* is also used¹⁹². Initially, *še-gín* is a vegetal product and is found under the shape of grains hence *še*. It is soluble since in Isin texts¹⁹³ we have it as a solid: (*še-gín*) or in liquid form (*a-še-gín*). At Umma, there is mention of hides for 'for the *še-gín*' (*kuš-še-gín-še*). Occasionally, at Mari, and systematically during the Kassite period, we have *kuš-še-gin*₇/*gin* which indicates that it was a solid since it was weighed.¹⁹⁴ Thus, *še-gín* can be made from animal hides (*kuš-še-gín*) and not be confused with hides treated with *še-gín*.¹⁹⁵ With Durand's emendations¹⁹⁶ the substance *še-gín* is both glue and varnish. Thus *šimtum* is both a material and the usage made of it, hence the verb *šamātum* which means to apply *šimtum* on something and therefore by extension, to apply paint, to tattoo, or to brand with a hot iron. Therefore, while at Mari, *šimtum* and *še-gin*₇ can be taken as synonyms, there is no possible distinction between the glue and the varnish. At Mari, it was sold by weight and more commonly in quantities of minas, usually one mina, but there are occurrences where larger and smaller quantities are found. In text 8, we have 20 *šiqlum* of *šimtum* to *Milkī-Addu* for a *kinnārum* for *ana šipir*; in another text,¹⁹⁷ we have 1 *manūm* of *šimtum* for a certain *Ḥabdum*¹⁹⁸ for a ^{gis}*littum*. Now Ziegler, has hypothesized that the *littum Ilšu* that *Ibbīšu* was asked to make would be the head of a bovid, a cow in this occurrence, that adorned the front of the bovine lyre. However, the amount of one *manūm* of *šimtum* for a head, about 500 grams, is far too much for that purpose. 500 grams would have been just right to make a whole large instrument. It is therefore possible that at Mari, the ^{gis}*littum* would have been a monumental bovine lyre.

šalammalgum. Text 22 has a delivery of some *marḥuṣūm*-wood for making a *šalammalgūm* and a *dilarum*-chair... This is a rare wood from Luristan. However, the instrument itself might come from *malgūm*, a region in Mesopotamian southeast, according to Eidem's interpretation.¹⁹⁹ For a discussion on this instrument, see *VMM*.²⁰⁰

šebītum. Krispijn has a *sabitum* witten (^{gis}*sa.bi.tum* = *šebitu*). It is an instrument which is associated with the *balaḡ.tur* 'small instrument (harp?)'²⁰¹ and with the ^{gis}*susbu* 'purification priest' (= *MUŠ-gunū.BU*). 'the wooden neck' ^{gis}*sá.bi.tum* occurs in Ur III-Early Old-Babylonian administrative texts from Isin. It is highly probable that it was a string instrument.

¹⁹¹ ARM XXIII, III.

¹⁹² 14 vii ZL 3 (= ZL 2' / -1772). ARM XXIII: 180. Marcetteau, M., *Vie Musicale à Mari...* p. 167, 404, 410.

¹⁹³ BIN 9.

¹⁹⁴ Animal hides were never weighed but counted in units and therefore *kuš* here distinguishes the nature of the material.

¹⁹⁵ Sigrist, M., 'Le travail des cuirs et des peaux à Umma sous la Dynastie d'Ur III', *JCS* 36 (1982), p. 157-159.

¹⁹⁶ *ARM* XXI, p. 337.

¹⁹⁷ *Archives Administratives de Mari*, Produits... No 199, p. 183-4.

¹⁹⁸ This *Ḥabdum* might be the same artisan as the *lū-nagar Abdum* in *AAM*, Produits... 245.

¹⁹⁹ *FM* I, pp. 53-5.

²⁰⁰ *VMM*, vol. 1, III. 3.B.6.

²⁰¹ Can. Hh VII B 75-76.

siddum. The word might derive from the verb *sadādu*, the meaning of which being unclear. In Mari there is a verb *sadādu* with a different meaning of 'to make a raid', 'to pursue'. However, there is another verb *sadādu*, in Standard Babylonian and only attested in the stative. *Šumma šulmu qê sa-di-id* = If the *šulmu* is streaked (?) with filaments.²⁰² Thus the contention that the *siddum* was a string instrument is very flimsy. However, the *siddum* is mentioned in text 18: ...regarding the *enūtum* and the *siddum* at *Ušur-awāssu*...²⁰³ and in text 19: Put all your energy in the teaching of music and of the *siddum*.²⁰⁴ Regarding the work of the *siddum*. 'That *siddum* are given to me so that I can really start work before my Lord arrives.'²⁰⁵

sammūm. Krispijn has *zamin*, written *zà.(me)*, (*ḡiš/kuš*)*zà.mí* = *sammū*. 'wide side'²⁰⁶ also 'to be praised' *cf.* *zà.me* = *wādium* 'praising'.²⁰⁷ *zamin* is translated *mandū* 'pole', which would fit the crossbar of a lyre. Parts of the lyre mentioned from Old-Babylonian onwards are: *ḡiš.kul.zà.mí* 'handle of the *zamin*' = *hansū* 'fibres' of the²⁰⁸ *ḡiš.dub/KAB.zà.mí*²⁰⁹ = *tuppu ša sammē* 'board (?) of the *zamin*' = *hansū* '?'; *ḡiš.āb.zà.mí*²¹⁰ 'cow of the *zamin*' = *ḡasis sammē* 'ear of the *zamin*' = sound hole (in the shape of a concave square)²¹¹. *zamin* is explained as *ār.re*,²¹² 'the (instrument) of praise'. The Mesopotamian tuning system²¹³ is based on the *zamin*.²¹⁴ *ḡiš.zà.mí.si.sá* = *išartu* 'the *išartu* tuning' = *ḡarru*²¹⁵ in that line (A) could be the abbreviation of *zamin*. It occurs in the combination *gala.zà* 'leader of the *zamin*-players'²¹⁶. *ZÀ* is apparently not the abbreviation of *ZÀ.HA* = *enkud* 'supervisor of hunting and fishing, fish collector'.²¹⁷ The *enkud* in its abbreviated form occurs in: *gala.zà*; *nesaḡ.a.zà*; *bara.zà*; *DILMUN.a. zà*.²¹⁸ *ḡiš.zà.mí* occurs in Ur III-Early Old-Babylonian administrative texts from Isin. *zamin* forms a pair with *šibattu*.²¹⁹ However, it is my contention that the 'tuning text' aforementioned was not meant for the lyre but for the harp on the basis that at the time the text was written, *ca.* 1800 B.C., lyres were no longer in great usage and that they had been supplanted by the *sammūm*.

tilmuttum. Instrument which originated from *Tilmun*.²²⁰

tigittallum. Possibly a chordophone since it shared its earliest sign form with *balaḡ*.²²¹

urzababītum. Impossible identification.²²²

²⁰² *TCL* 6 3:8, also *CT* 20 25 K.12648 ii 3, *šumma NA gu-am sa-di-id CT* 51 156 r. I 14 (all Standard Babylonian). For Neo-Babylonian references, see *suddūdu*. For *BRM* 4 12 :73, see *sukuptu*. For *ChDiv* 135/6 (= Lenormant, Choix 88, r.) 12 f. see *sādīdu*.

²⁰³ *FM* IX: 48; *VMM*: 83, p. 49.

²⁰⁴ For a discussion on this word, see Analysis, below, under *siddum*.

²⁰⁵ *FM* IX: 49; *VMM*: 84, p. 49.

²⁰⁶ Krispijn, 'Beiträge', pp. 6-7.

²⁰⁷ *VE* 1181. MB Hh.

²⁰⁸ OB Hh I 611; MB Hh 4259.

²⁰⁹ OB Hh I 611; MB Hh 4259; VII B 50.

²¹⁰ MB Hh 4260.

²¹¹ Robson, E., *Mesopotamian Mathematics 200-1600 B.C.* (Oxford, 1999), pp. 50-4.

²¹² Hh VIIIB 45 (reconstructed).

²¹³ I would argue that it is not a 'tuning system' but that it is a system for scale construction as the text does not give any tuning instructions *per se*.

²¹⁴ *cf.* Hh VIIIB 47.

²¹⁵ Hg B II. *ZÀ*.

²¹⁶ *ED* Lu A 108.

²¹⁷ Englund, Uruk, 142-319; Green, M.W., *JCS* 36 (1984), pp. 93-5.

²¹⁸ *ED* Lu A 82-5.

²¹⁹ *Šurpu* III 91 (Table 3.2 10).

²²⁰ *VMM* Vol. 1, III.3.B.5, pp. 390-1.

²²¹ *VMM*. Vol. 1, III.3.B.9, pp. 394-5.

²²² *VMM*. Vol. 1, III.3.B.7, pp. 393-4.